



Designation: D5192 – 09

Standard Practice for

Collection of Coal Samples from Core¹

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1. Scope

1.1 This practice describes procedures for collecting and handling a coal sample from a core recovered from a borehole.

1.2 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 *ASTM Standards:*²

D121 Terminology of Coal and Coke

D388 Classification of Coals by Rank

D1412 Test Method for Equilibrium Moisture of Coal at 96 to 97 Percent Relative Humidity and 30°C

D2013 Practice for Preparing Coal Samples for Analysis

D2796 Terminology for Megascopic Description of Coal and Coal Seams and Microscopical Description and Analysis of Coal (Withdrawn 1995)³

D4371 Test Method for Determining the Washability Characteristics of Coal

D4596 Practice for Collection of Channel Samples of Coal in a Mine

3. Terminology

3.1 *Definitions:*

3.1.1 For additional definitions of terms, refer to Terminology D121.

¹ This practice is under the jurisdiction of ASTM Committee D05 on Coal and Coke and is the direct responsibility of Subcommittee D05.18 on Classification of Coals.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

³ The last approved version of this historical standard is referenced on www.astm.org.

3.1.2 *borehole, n*—the circular hole through soil and rock strata made by boring.

3.1.3 *caves or washouts, n*—zones of increased hole diameter caused by rock fragments that fall from the walls of a borehole and can block the hole or contaminate the cuttings and which erode or abrade the sidewall of the borehole by the action of the drilling. These zones can affect the accuracy of certain geophysical logs (especially density). Corrections to other geophysical logs can be made if a caliper log is available. The most common causes of caves or washouts include soft or fractured lithologies, the presence of water-producing zones, and the downhole pressure of the drilling medium (fluid or air) that often causes differential erosion of various strata within the borehole.

3.1.4 *concretion, n*—in a geological sense, a mass of mineral matter found in rock of a composition different from its own and produced by deposition from aqueous solution in the rock.

3.1.5 *core, n*—in drilling, a cylindrical section of rock (coal) that is usually 5 to 10 cm in diameter, taken as part of the interval penetrated by a core bit and brought to the surface for geologic examination, representative sampling, and laboratory analyses.

3.1.6 *core barrels, n*—two nested tubes above the bit of a core drill, the outer rotating with the bit, the inner receiving and preserving a continuous section or core of the material penetrated. The following two types of inner barrels are commonly used.

3.1.6.1 *split-tube barrel, n*—a type of inner barrel consisting of two longitudinal halves of pipe bound together by reinforced tape at intervals along the barrel length that allows easy access to a relatively intact core (by cutting the tape). (This is the preferred barrel type for coal exploration, when available.)

3.1.6.2 *solid-tube barrel, n*—a type of inner barrel consisting of a single solid-walled length of pipe in which removal of the core is accomplished by mechanical or hydraulic pressure at one end of the pipe thus extruding the core onto a core tray. (The core is likely to be less intact than when a split-tube barrel is used.)

3.1.7 *core sample, n*—that part of a core of rock or coal obtained so as to accurately represent a thickness of a unit penetrating by drilling.